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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/495,407	01/31/2000	Keith Stivers	OSI-2300/2310	4823

7590

11/24/2003

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EXAMINER

WHITE, CARMEN D

ART UNIT	PAPER NUMBER
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3714

DATE MAILED: 11/24/2003

17

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/495,407

Applicant(s)

STIVERS ET AL.

Examiner

Carmen D. White

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 August 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28, 33-54, 56-62, 64-65, 67-94 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-28, 33, 60-62, 64, 65, 67-73 and 85 is/are allowed.
- 6) ☒ Claim(s) 34-54, 56-59, 74-84 and 86-94 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on August 25, 2003 has been entered.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 34-54, 56-59 and 84 are rejected under 35 U.S.C. 103(a) as being unpatentable over ***Chang et al*** (5,342,054) in view of ***Sullivan et al*** (4,158,853), further in view of ***Balmat*** (5,713,799).

Regarding claims 34-54, 56-59 and 84, Chang and Sullivan teach the limitations of the claims discussed in the previous office actions and incorporated herein by reference. Regarding the feature of a circumambulatory marking, In an analogous golf system, Balmat teaches a ball that has a circumambulatory marking (Fig. 8). It would have been obvious to a person of ordinary skill in the art at the time of the invention to employ this marking, as taught by Balmat in the marking system of Sullivan in order to

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make the detection of the marking easier; thereby improving the golf statistical analysis. Regarding the newly added limitation of determining spin of a ball based on only one of the markings on images captured only with said {one} camera, Sullivan teaches that "other numbers of cameras may be used" (col. 3, line 47). Further Sullivan goes on to provide various **examples** of usage of from **one** to four cameras. It would have been obvious to a person of ordinary skill in the art, from the suggestion of Sullivan to use various camera configurations, to modify Sullivan, to use only one camera to determine spin to decrease the amount of equipment needed; thereby making the system cheaper and more compact.

Claims 86-94 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Sullivan et al** (4,158,853) in view of **Balmat** (5,713,799) or **Masutani et al** (5,651,741).

Regarding claims 86-94, Sullivan teaches a system for monitoring spin of a golf ball following impact by a golf club system that comprises a golf ball having a marking thereon; a camera positioned to capture at least two images of the golf ball following impact by a club; a processor for finding the mark in the images captured by the camera {see above for discussion of using one camera} and for determining a spin of the ball based on one or more characteristics of the marking (abstract; Fig. 2; col. 1, lines 6-7 and lines 35-67; col. 3, lines 32-53). Sullivan lacks teaching the marking is a stripe. In analogous golf ball with markings, Balmat teaches the use of a stripe for a marking (Fig. 3, Fig. 6). In an analogous golf ball system, Masutani teaches the use of a stripe for a marking (Fig. 1, #2). It would have been obvious to a person of ordinary skill in the art at the time of the invention to employ this marking, as taught by Balmat or Masutani, in

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the marking system of Sullivan in order to make the detection of the marking easier; thereby improving the golf statistical analysis.

Claims 74-83 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Chang et al** (5,342,054) in view of **Sullivan et al** (4,158,853).

Regarding claims 74-83, Chang and Sullivan teach the limitations of the claims discussed in the previous office actions and incorporated herein by reference. As reiterated in the Final Rejection (paper 13) transfer efficiency has been interpreted by the examiner as data obtained from contact by the golf club and ball- see Fig. 7. While Chang teaches the determination of the ball speed based on the images, Chang lacks teaching determination of ball velocity based on the images. In the analogous golf reference, Sullivan teaches the determination of ball velocity based on images. It would have been obvious to employ this teaching of Sullivan in Chang to enhance the feedback given to the golfer; thereby improving the golfer's techniques and accuracy.

Allowable Subject Matter

Claims 1-28, 33, 60-62, 64, 65, 67-73 and 85 are allowed.

The following is a statement of reasons for the indication of allowable subject matter: The prior art of record, with emphasis on Chang et al (5,342,054) and Sullivan et al (4,158,853) do not disclose the feature of *determining at least one of a swing path and a club head angle of the golf club based on said signals indicative of the temporal profile*. The references of record also do not teach the feature of *calculating a three-dimensional ball velocity by determining circumferential extrapolations of perimeters of two or more images*.

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R sponse to Applicant's Remarks

The examiner has addressed applicant's arguments regarding the newly added claim features in the above office action, which includes a new art rejection using Balmat and Masutani and the indication of allowable subject matter.

USPTO Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carmen D. White whose telephone number is 703-308-5275. The examiner can normally be reached on Monday through Friday, 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Hughes can be reached on 703-308-1806. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1078.



C. White
Patent Examiner, 3714